

## CLAIMS

I claim:

- 5           1.       A method for automatic calibration of infrared sensing devices, comprising the steps  
of:  
          emitting infrared radiation from an infrared emitter;  
          detecting infrared radiation via an infrared detector, said infrared radiation detected by said  
infrared detector comprising at least a portion of said infrared radiation emitted from said infrared  
10       emitter;  
          generating a first value indicative of an amount of infrared radiation detected via said  
detecting step;  
          comparing said first value to a threshold;  
          determining a second value based on said comparing step;  
15       storing said second value; and  
          automatically causing said infrared emitter to emit a pulse of infrared radiation based on said  
second value, wherein an amplitude of said pulse corresponds to said second value.
- 20           2.       The method of claim 1, wherein said infrared emitter and said infrared detector are  
attached to a collar of a faucet.
3.       The method of claim 1, further comprising the step of controlling a faucet based on  
infrared radiation detected by said infrared detector.
- 25           4.       The method of claim 1, further comprising the step of inputting said second value to  
said infrared emitter.

5. An infrared sensing device, comprising:

an infrared emitter configured to emit infrared radiation;

an infrared detector configured to detect an infrared radiation sample, said infrared radiation sample comprising at least a portion of said infrared radiation emitted by said infrared emitter, said  
5 infrared detector configured to output a first value indicative of an amplitude of said infrared radiation sample; and

a control module configured to perform a comparison between said first value and a threshold and to generate a second value based on said comparison, said control module further configured automatically cause said infrared emitter to emit a pulse of infrared radiation based on said second  
10 value, wherein an amplitude of said pulse corresponds to said second value.

6. The device of claim 5, wherein said infrared emitter and said infrared detector are attached to a collar of a faucet.

15 7. The device of claim 5, wherein said control module is further configured to control a faucet based on infrared radiation detected by said infrared detector.

8. The device of claim 5, wherein said control module is further configured to input said second value to said infrared emitter.